

Attorney docket # IN-12101

REMARKS/ARGUMENTS

Applicants respectfully request reconsideration of the present application as amended herein. By the present amendment claim 1 has been amended. Claims 25 and 26 have been added. Upon entry of the current amendments, Claims 1-6, 10-19, 25 and 26 remain pending in the application with Claim 1 being independent. Support for the amendment can be found throughout the specification.

Claims 1-6 and 10-19 stand rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al (U.S. 4,193,932). The Office maintains that Yamamoto discloses (Column 4, line 46-column 5, line 5) a process for the reaction of diaminodiphenylmethane with phosgene to give isocyanate. Yamamoto discloses (Column 4, lines 48-56) a two stage process for the reaction of diaminodiphenylmethane with phosgene in chlorobenzene (an inert solvent), reacting with an excess of phosgene below 20°C and again at 150°C at atmospheric pressure (presumed). Yamamoto is silent with regard to the bromine content of the phosgene employed and so no bromine is considered to be present. Yamamoto thus anticipates instant claims 1-6 and 10-19.

Applicants traverse this rejection. The low bromine or iodine content is a particular feature of the phosgene used in the process according to the claimed invention. Since Yamamoto is silent regarding the bromine or iodine content of the phosgene employed, it is unclear how Yamamoto anticipates the claim limitation regarding the level of bromine and/or iodine in the present application. It is unclear how the Office can consider bromine not to be present in the phosgene employed in the Yamamoto process, if no information concerning impurities of the phosgene is given in Yamamoto.

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As outlined in the instant specification, phosgene usually contains certain levels of bromine or iodine, which are much higher than the level specified in claim 1, due to the preparation process, which starts from chlorine. The chlorine used to produce the phosgene usually contains a certain proportion of bromine or iodine or both, which results from the corresponding content in the salt used for producing the chlorine (see page 6, lines 18 to 27 of the present specification).

In particular, there is strong evidence from the specification of Yamamoto that high bromine and/or iodine levels are in fact present in the phosgene used by Yamamoto. According to Yamamoto, a particular cleaning procedure must be carried out in order to obtain only light-colored isocyanate. This cleaning procedure consists in passing hydrogen chloride gas through the reaction product in the presence of an inert organic solvent (see claim 1 and in particular example 1 and control 1 of Yamamoto).

According to example 1 of Yamamoto, a condensation product of aniline, formaldehyde, and hydrogen chloride comprising diaminodiphenylmethane and polymethylene polyphenyl polyamines are reacted with phosgene. The reaction mixture is degassed by passing hydrogen chloride gas therethrough. The degassed reaction mixture obtained is a pale yellow and clear liquid. In control 1, the procedure of example 1 is repeated except that the hydrogen chloride gas is replaced by nitrogen gas. The degassed reaction mixture is considerably brown colored.

Thus, omitting the particular cleaning step of Yamamoto leads to a brownish isocyanide product, indicating that in fact high levels of bromine and iodine were present in the used phosgene. According to the present invention, no such additional cleaning step is necessary,

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provided that low bromine or iodine levels, i.e. of less than 50 ppm, are present in the phosgene used to produce the isocyanates, and a clear product is nevertheless obtained.

Summarizing, Yamamoto employs phosgene having the usual high bromine and iodine level, and teaches a particular cleaning step in order to obtain a clear product. According to the present invention, a phosgene having the specified low bromine and/or iodine level is used, and a clear product is obtained without performing any cleaning step.

Consequently, Yamamoto cannot anticipate process of the present claims.

Applicants respectfully submit that the claims as amended are now in condition for allowance and respectfully requests such allowance.

Respectfully submitted,

BASF CORPORATION

Date: 4/12/04

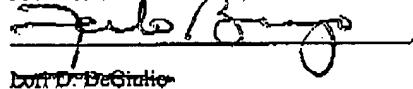
  
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